

IN THE CLAIMS:

1. (Currently Amended) A wireless access method in which there are installed a plurality of access point stations deploying a wireless service area and forming a communication link with a mobile radio terminal which has entered the service area, and a communication link is formed between the plurality of access point stations to perform communication, the method comprising:

performing point-to-multipoint type communication with the mobile radio terminal by providing an RF transceiver in each of the plurality of access point stations; [[and]]

performing point-to-point type communication with other access point stations by providing one or more another RF transceivers in each of the plurality of access point stations, said plurality of access point stations comprising a control access point station, a first repeater access point station and a second repeater access point station, said control access point station performing signal modulation/demodulation or access control, said second repeater access point station dividing a signal into a first signal and a second signal when said second repeater access point station receives said signal from one of said first repeater access point station and said control access point station, said second repeater access point station broadcasting and delivering said first signal to each mobile radio terminal located within a coverage area of said second repeater access point and simultaneously relaying/transmitting said second signal to another one of said access point stations based on a non-reproduction scheme, said second repeater access point station receiving a mobile radio terminal signal from one of said mobile radio terminals located within said coverage area of said second repeater access point station,

said second repeater access point station relaying/transmitting said mobile radio terminal signal to one of said access point stations based on a non-reproduction scheme, wherein signal processing at each access point station is performed in an IF frequency band obtained by performing down-converting from an RF frequency band.

2. (Canceled)

3. (Currently Amended) The wireless access method according to claim [[2]] 1, wherein:

to a radio signal transmitted from the control access point station to another access point station, there is attached destination information for allowing a destination access point station to perform identification; and

each repeater access point station identifies destination information of a received signal, relaying/transmitting the signal to another access point station based on a non-reproduction scheme when the signal is not destined for the own station, broadcasting the signal to the coverage area of the own station to deliver the signal to all mobile radio terminals when the signal is destined for the own station.

4. (Canceled)

5. (Currently Amended) The wireless access method according to claim [[4]] 1,

wherein the RF transceiver included in the access point station is based on a millimeter-wave self-heterodyne scheme.

6. (Currently Amended) A wireless access system in which there are installed a plurality of access point stations deploying a wireless service area and forming a communication link with a mobile radio terminal which has entered the service area, and a communication link is formed between the plurality of access point stations, the system comprising: ~~in each of the plurality of access point stations,~~

an RF transceiver to form point-to-multipoint type communication link with the mobile radio terminal, said RF transceiver being located in each of said plurality of access point stations;[[:]] and

one or more another RF transceivers to form a point-to-point type communication link with another access point station, said plurality of access point stations comprising a control access station point, a first repeater access point station and a second repeater access point station, said first repeater access point station receiving a signal from one of said second repeater access point station and said control station, said first repeater access point station dividing said signal into a first signal and a second signal, said first repeater access point station delivering said first signal to each mobile radio terminal located within a coverage area of said first repeater access point station and simultaneously transmitting said second signal to another one of said access point stations based on a non-reproduction scheme, said first repeater access point station receiving a mobile radio terminal signal from one of said mobile radial terminals

located within said coverage area of said first repeater access point station, said first repeater  
access point station transmitting said mobile radio terminal signal to another one of said access  
point stations, wherein signal processing at each access point station is performed in an IF  
frequency band obtained by performing down-converting from an RF frequency band.

7. (Original) The wireless access system according to claim 6, wherein the plurality of  
access point stations are constructed in cascade arrangement or two-dimensionally across a  
wide area, whereby a wireless service zone is deployed on a planar surface.

8. (Canceled)

9. (Currently Amended) The wireless access system according to claim [[8]] 6,  
wherein:

to a radio signal transmitted from the control access point station to another access  
point station, there is attached destination information for allowing a destination access point  
station to perform identification; and

each repeater access point station identifies destination information of a received signal,  
relaying/transmitting the signal to another access point station based on a non-reproduction  
scheme when the signal is not destined for the own station, broadcasting the signal to the  
coverage area of the own station to deliver the signal to all mobile radio terminals when the  
signal is destined for the own station.

10. (Canceled)

11. (Currently Amended) The wireless access system according to claim [[10]] 6, wherein the RF transceiver included in the access point station is based on a millimeter-wave self-heterodyne scheme.

12. (New) A wireless access method, comprising:

providing a plurality of access point stations, each access point station transmitting a wireless service to define a wireless service area;

providing a first RF transceiver in each of said plurality of access point stations;

5 performing point-to-multipoint type communication with a mobile radio terminal located in one or more of said wireless service areas with said first RF transceiver;

providing a second RF transceiver in each of said plurality of access point stations;

performing point-to-point type communication with one of said access point stations and another of said access point stations via said second RF transceivers, said plurality of access point stations comprising a control access point station, a first repeater access point station and  
10 a second repeater access point station, said control access point station performing signal modulation/demodulation or access control, said second repeater access point station dividing a signal into a first signal and a second signal when said second repeater access point station receives a signal from one of said first repeater access point station and said control access  
15 point station, said second repeater access point station delivering said first signal to one or more

mobile radio terminals located within said wireless service area of said second repeater access point and simultaneously delivering said second signal to another one of said access point stations, said second repeater access point station receiving a mobile radio terminal signal from one of said mobile radio terminals located within said wireless service area of said second  
20 repeater access point station, said second repeater access point station delivering said mobile radio terminal signal to another one access point stations, wherein signal processing at each access point station is performed in an IF frequency band obtained by performing down-converting from an RF frequency band.

13. (New) A wireless access method according to claim 12, wherein:

to a radio signal transmitted from the control access point station to another access point station, there is attached destination information for allowing a destination access point station to perform identification; and

5 each repeater access point station identifies destination information of a received signal, relaying/transmitting the signal to another access point station based on a non-reproduction scheme when the signal is not destined for the own station, broadcasting the signal to the coverage area of the own station to deliver the signal to all mobile radio terminals when the signal is destined for the own station.

14. (New) A wireless access method according to claim 12, wherein the RF transceiver included in the access point station is based on a millimeter-wave self-heterodyne scheme.